

Application No.: 09/826,036

Docket No.: 21806-00115-US

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A method of filling an opening in an oxide layer, over a liner layer formed on a surface of a silicide substrate underlying both the oxide layer and the liner layer, the method comprising:

forming a first continuous layer comprising silicon, by either physical vapor deposition (PVD) or chemical vapor deposition (CVD) at a first temperature in the range 500°C to 650°C on-completely covering the oxide layer and ~~on~~ the liner layer; and

forming a second layer, comprising a refractory material, on the first layer at a second temperature that is lower than the first temperature so as to cover the same first layer and to also substantially fill the opening,

wherein said second temperature is selected to avoid any significant reaction between the refractory material and the silicon in the first continuous layer.

2. (Original) The method according to claim 1, wherein:

the first layer is a continuous layer of one of amorphous or polycrystalline that has a thickness not greater than about 50Å.

3. (Cancelled).

4. (Currently Amended) The method according to claim 31, wherein the first temperature is approximately 600°C.

5. (Original) The method according to claim 1, wherein:

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the refractory material contains a metal selected from a group of refractory metals consisting of titanium, tantalum, molybdenum and tungsten.

6. (Original) The method according to claim 5, wherein:

the refractory material comprises one of the selected metals deposited as a metal, as a component of a nitride of the metal, or as a component of an alloy of the metal.

7. (Original) The method according to claim 1, wherein:

the first layer sacrificially protects the underlying liner and the silicide layer during the step of forming the second layer. *conflict*

8. (Original) The method according to claim 7, wherein:

the first layer serves as a nucleation layer for deposition of the second layer thereon.

9. (Cancelled).

10. (Original) The method according to claim 8, wherein:

the first layer is a continuous polysilicon layer that has a thickness not greater than about 50Å.

Claims 11-14 (Cancelled).

15. (Previously Presented) The method according to claim 1 wherein:

the first temperature is approximately 600°C; and

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the second layer is formed at a second temperature that is lower than the first.

Claims 16-20 (canceled).

21. (Original) The method according to claim 1, wherein:

the first layer is formed by a chemical vapor deposition (CVD) process and extends continuously on the oxide layer, a wall of the opening and the liner layer.

22. (Original) The method according to claim 1, wherein:

the liner layer comprises at least one of titanium, titanium nitride, tungsten, and an alloy of titanium and tungsten.

23. (Original) The method according to claim 1 wherein:

said first silicide layer is formed on a silicon substrate.

24. (Previously Presented) The method of claim 1 wherein the second layer is formed from a fluorine containing compound.

25. (Previously Presented) The method of claim 24 wherein the fluorine containing compound comprises WF_6 .

26. (Previously Presented) The method of claim 2 wherein the second layer is formed from a fluorine containing compound.

27. (Previously Presented) The method of claim 26 wherein the fluorine containing compound comprises WF_6 .